

## **NOAA Standard Document**

### **Standard S24.803**

# **Cable and Wire Identification**

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## Approval Page

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### NOAA Standard Document Standard S24.803 Cable and Wire Identification

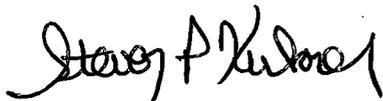
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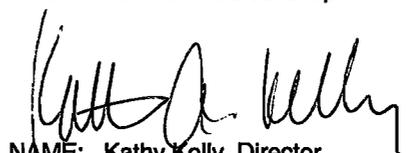
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## **1.0 Scope**

This document establishes a standard for the identification of cables and wires to be observed by contractors supplying electronic and electrical equipment or systems.

### **1.1 Application**

The requirements of this standard shall apply to equipment, systems developed, or made to Government specifications. The requirements apply to both custom and commercial equipment, and to cables and wire connecting such equipment to existing equipment or systems provided by the contractor in order to satisfy the Government specifications.

### **1.2 Contracting Officer's Technical Representative**

The Contracting Officer's Technical Representative (COTR) shall provide the final interpretation of any conflict between this standard and specific contract requirements.

### **1.3 Waivers**

Any request for waiver of specific requirements of this standard shall be submitted in writing to the COTR and to the Contracting Officer. A request for waiver must include: (a) identification of the paragraphs for which the waiver is requested; (b) identification of the systems, equipment, or components for which the waiver is requested; and (c) a discussion of rationale for granting the waiver, including impact on reliability, maintainability, schedule, and cost if the waiver is not granted.

## 2.0 Applicable Documents

### NOAA/NESDIS:

NOAA/NESDIS Standard No. S24.801, "*Preparation of Operation and Maintenance Manuals*".

NOAA standards are available from: U.S. Department of Commerce, National Oceanic and Atmospheric Administration, National Environmental Satellite, Data, and Information Service, OSD/3, Washington, D.C. 20233.

### ANSI:

ANSI/TIA/EIA-606-A-2002, TIA/EIA Standard, "*Administration Standard for Commercial Telecommunications Infrastructure*".

ANSI Standards are available from American National Standards Institute, Inc., 1430 Broadway, New York City, New York 10018.

## 3.0 Requirements

### 3.1 General

Cables supplied as part of electronic equipment shall be identified in conformance with this standard.

### 3.2 Marking System

Each cable shall carry an identification label defining near-end and far-end termination points.

#### 3.2.1 Label Fields

Each cable label has six fields and each cable has two identical labels. Within the label, three fields designate the near end connection point and three fields designate the far end connection point.

The six fields are:

- Near end Geographic Location (NGL)
- Near end Major Equipment Designator (NMED)
- Near end Detailed Connection Point (NDCP)
- Far end Geographic Location (FGL)
- Far end Major Equipment Designator (FMED)
- Far end Detailed Connection Point (FDCP)

The fields are separated by periods and a slash, and each field must have an entry, as follows:

**NGL.NMED.NDCP / FGL.FMED.FDCP**

When the two identical labels are attached to the ends of the cable, the information nearest to the connector applies to that end of the cable. See Figure 3-1.



**Figure 3-1. Typical Label Structure**

### **3.2.2 Geographic Locator (GL, Near and Far)**

The Geographic Locator (GL, Near, and Far) field uniquely identifies a physical location within a building or a campus.

The following sections provide examples of possible implementation.

#### **3.2.2.1 Cabling on a Campus**

If the responsibility for maintained cable documentation includes cables between buildings on a campus, the Geographic Locator must be able to differentiate the buildings. The Geographic Locators might be FB4 for Federal Building 4 and simply 'N' for the new NSOF. The Geographic Locator must identify a specific location within a building on the campus. Complete Geographic Locators could be FB4-0304 and N1N. FB4-0304 translating to room 0304 in FB4 and N1N translating to the 1st floor NOC in the NSOF. NOTE: Any character may be used in the various fields except the period or slash. These have specific meaning in the label structure.

#### **3.2.2.2 Cabling within a Building**

If the responsibility for maintained cable documentation is completely inside a single building, the Geographic Locator need contain only the room identifier. For example NOC or COM2A

#### **3.2.2.3 Cabling within a Small Facility**

If the responsibility for maintained cable documentation is completely inside a small facility and the Major Equipment Designator is viewed as specific enough to locate all equipment, then the Geographic Locator may contain a single letter, number or alpha/numeric designator. For example the letter 'T' might be satisfactory for all of the cabling at the Timbuc2 facility.

### **3.2.3 Major Equipment Designator (MED, Near and Far)**

The Major Equipment Designator is intended to differentiate between various pieces of equipment with in a room. The equipment designator may be very simplistic as in PC1 and PC2 within a room with very limited equipment. It may be more detailed and structured as in A1A12B6 as in a rack, panel, slot arrangement. It may be an alpha numeric designation as in a known system acronym, e.g. TCS3, RPM1, etc. Note that Major Equipment Designators are usually derived from equipment elevation drawings and rack designations.

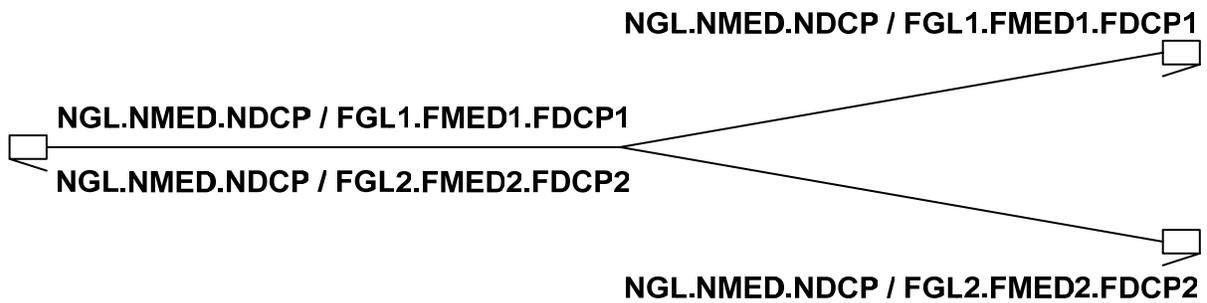
### **3.2.4 Detailed Connection Point (DCP, Near and Far)**

The Detailed Connection Point is simply the lowest level marked connection point. This would usually be a mating jack with a label such as J1 or J13. It could be a matrix numbered punch-down in a wire closet. It could also be a connection point labeled as "Input", "Audio", "TV", etc.

### 3.2.5 Multi-point Cables

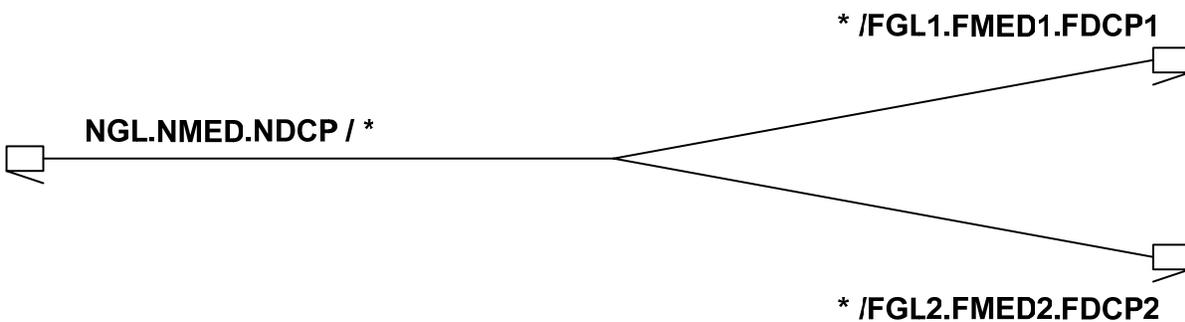
Multi-point cables, of necessity, may be identified somewhat differently. Multi-point cables, e.g., a cable assembly with more than two connectors, may be labeled with the following considerations. In all cases the label will identify “this end” of the cable to which it is attached. Since the “this end” label designator will be used in the data base to locate other characteristics (materials, part numbers, lengths, etc.). The label must contain the proper designation for “this end”.

Multiple cable labels may be used as appropriate. One or more ends might have more than one label. See Figure 3-2.



**Figure 3-2. Multi-point Cable with Multiple Labels**

Cable labels may omit the “other” end designation. See Figure 3-3.



**Figure 3-3. Multi-point Cable Omitting “Other” End**

### **3.2.6 Cable Markers**

Cable identification marker strips, as described herein, shall be prepared and affixed to each cable end. The finished cable marker shall present a neat appearance, with the legend visible when the cable is in place.

#### **3.2.6.1 Indoor Cables**

Cables installed indoors or in a protected environment shall be labeled with commercially available tie on cable labels or self-laminating wrap-around labels. Legends shall be typewritten or machine printed. Labels shall be positioned within 12 inches of the connector end, neatly aligned, and parallel to the cable.

#### **3.2.6.2 Outdoor Cables**

Cables installed outdoors or in exposed locations shall be labeled with a non-corrosive metallic material. The legend shall be applied by embossing or a plastic material, with the legend applied by engraving.

## **4.0 Control**

### **4.1 Control**

Control of the cable labeling system for each system or subsystem shall be maintained by the Contractor's cognizant technical officer. All cable label assignments and changes shall be made under the technical officer's authority.

## 5.0 Documentation

### 5.1 Cable Database

The contractor shall fully document all cables supplied as part of the equipment. The database shall give the following information for each cable:

- a. Marking applied at each end of the cable.
- b. Location of both cable ends.
- c. Type of connectors at each end.
- d. Type of wire or cable employed.
- e. Purpose of cable.
- f. Cable length.
- g. Other pertinent information (i.e., solder/crimp; tooling required).

The required information shall be organized and presented in a logical, tabular, form. The database shall be incorporated into the equipment maintenance and operation manual (NOAA/NESDIS Standard No. S24.801, "Preparation of Operator and Maintenance Manuals").